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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,887	02/22/2002	Andreas Lubbertus Aloysius Johannes Dekker	41942-04500	9941

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EXAMINER

KREMER, MATTHEW J

ART UNIT	PAPER NUMBER
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3736

DATE MAILED: 04/11/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,887

Applicant(s)

DEKKER, ANDREAS LUBBERTUS
ALOYSIUS JOHA

Examiner

Matthew J Kremer

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,5,6. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1-28 and 37-42 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,480,733 to Turcott. In regard to claims 1, 17, and 22, Turcott teaches a photoplethysmographic signal that is processed so that the Mayer Wave is identified which is used to recognize a developing heart failure exacerbation. (column 18, line 50 to column 19, line 24 of Turcott). In regard to claims 2, 17, and 22, a variation in pulse amplitude is performed which is directly related to a variation in blood volume in the photoplethysmographic measurements. (column 19, lines 4-25 and column 20, lines 13-22 of Turcott). In regard to claim 3, the processing of the amplitude and frequency of the Mayer Wave is performed. (column 20, lines 13-22 of Turcott). In regard to claims 4-6, 15-19, 24, and 27-28, band pass filtering is disclosed for ranges 0.3 to 0.1 Hz and 0.17 to 0.4 Hz. (column 15, line 63 to column 16, line 2 of Turcott). In regard to claims 8, 20 and 40, a graphical output is disclosed. (Fig. 14 of Turcott). In regard to claims 8-14, 17, 21, 23, and 25-26, the detection of heart rate variability is disclosed. (column 18,

line 50 to column 19, line 24 of Turcott). In regard to claims 37-42, a processor 12, memory 18, and a patient alert 14 are disclosed. (Fig. 1 of Turcott).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 29-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,480,733 to Turcott in view of U.S. Patent 6,099,481 to Daniels et al., and further in view of U.S. Patent 4,813,427 to Schlaefke et al. In regard to claim 29, Turcott teaches a photoplethysmographic signal that is processed so that the Mayer Wave is identified which is used to recognize a developing heart failure exacerbation. (column 18, line 50 to column 19, line 24 of Turcott). Turcott does not teach causing the respiration rate of the patient to be at a given threshold. Turcott teaches that a plurality of sensors can be used in conjunction with the method of Turcott. (column 6, line 55 to column 7, line 10 of Turcott). Daniels et al. teaches a plurality of sensors that are used in conjunction with each other that are used to monitor a patient including monitoring respiration rate, oxygen saturation, and pulse rate. (column 12, lines 33-42 of Daniels et al.). A respiration sensor falls within the scope of sensors that can be used in the method of Turcott. Therefore, it would have been obvious to one having ordinary skill in

the art at the time the invention was made to use the respiration sensor of Daniels et al. in the method of Turcott since Turcott teaches that a plurality of sensors can be used and Daniels et al. teaches such sensors. Daniels et al further teaches that it is desirable to have the respiration rate above a predetermined a threshold. (column 12, lines 33-42 of Daniels et al.). It is known in the art to provide ventilation to a patient when the respiration rate falls below a predetermined threshold to maintain suitable airflow to the patient. (column 2, lines 25-49 of Schlaefke et al.). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide ventilation to a patient when the respiration rate falls below a predetermined threshold since such ventilation maintains suitable airflow to the patient. In regard to claims 32-33, the threshold depends on numerous factors such as desired sensitivity of the apparatus, physical risk to the patient, the patient's medical condition, and caregiver's preference. For example, Daniels et al. teaches that the user sets the thresholds. (column 12, lines 32-41 of Daniels et al.). These considerations provide a clear suggestion that the threshold can be modified and that the determination of the most appropriate threshold by routine experimentation would, therefore, be prima facie obvious to one having ordinary skill in the art. In regard to claim 34, Schlaefke et al. teaches a ventilator. (column 2, lines 25-49 of Schlaefke et al.). In regard to claims 35, the detection of heart rate variability of time is disclosed. (column 18, line 50 to column 19, line 24 of Turcott). In regard to claim 36, a variation in pulse amplitude is performed which is directly related to a variation in blood volume in the photoplethymographic measurements. (column 19, lines 4-25 and column 20, lines 13-22 of Turcott).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,027,455 to Inukai et al teaches a method with a step of determining the activity of the autonomic nerve system comprises determining an activity of a sympathetic nerve system of the subject based on a low-frequency component which is present in the fluctuations of the blood pressure and whose frequency is lower than a respiration frequency of the subject.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J Kremer whose telephone number is 703-605-0421. The examiner can normally be reached on Mon. through Fri. between 7:30 a.m. - 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Winakur can be reached on 703-308-3940. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0758 for regular communications and 703-308-0758 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

Matthew Kremer
Assistant Examiner
Art Unit 3736
April 4, 2003



ERIC F. WINAKUR
PRIMARY EXAMINER